

# Introduction to Cloud Computing



- **Provides on-demand access to computing resources over the internet.**
- **No need for physical hardware—resources.**
- **Pay-as-you-go model.**

# Traditional vs Cloud Infrastructure

# **Traditional Infrastructure**

- **Requires physical servers & data centers.**
- **High upfront costs for hardware & maintenance.**
- **Manual scalability (adding more servers takes time).**
- **Risk of hardware failure.**

# Cloud Infrastructure

- **Uses virtualized cloud servers.**
- **Pay only for what you use (subscription-based).**
- **Auto-scaling & instant resource provisioning.**
- **High availability & redundancy.**

# Benefits of Cloud Computing

- **Scalability**
- **Cost-effectiveness**
- **Security**
- **Flexibility**
- **Disaster Recovery**

# Public, Private, and Hybrid Cloud

- **Public Cloud** – Services are shared & hosted by third-party providers (e.g., AWS, Azure, GCP).
- **Private Cloud** – Exclusive cloud environment for a single organization, offering better control & security.
- **Hybrid Cloud** – Combination of public & private cloud for a balanced approach.

